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vehicle, including aspects of the vehicle operations such as emissions components, system pressure, fluid pressure, system temperature, and other aspects or conditions. However, the analyzer or other electronic device may be equipped with additional functionality.

SubB4

[0033] FIG. 2 illustrates the internal components of an exemplary electronic device. Such components may interface with the module through the hardware interface port. Referring to FIG 2, a hardware interface connector of an exemplary oscilloscope adapter module 20 interfaces with a hardware interface port 22. Certain pins or receptacles on the hardware interface port 22 provide communication to and from a controller 24 via interface bus 26 within the portable electronic device. The hardware interface port 22 may also serve to communicate discrete input/output signals via interface bus 26 to the oscilloscope module through the hardware interface connector 20, and the oscilloscope module 20 may share input/output signals 28 and/or 30 with one or more field programmable gate array (FPGA) components within the electronic device such as 32 and/or 34. The device may also include a memory or buffer 36 that stores data collected by the device.

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[0034] To provide an oscilloscope adapter module for an electronic device, the module may include a computer program memory or other carrier, such as a floppy disc, a CD-ROM, a virtual memory, or a signal, containing computer program instructions that instruct the electronic apparatus to perform such functions. These instructions are preferably loaded into the electronic device when the oscilloscope application is selected. Optionally, the module may also provide processing hardware that can be used by the electronic device when performing such functions. Preferably, the module includes a custom-programmed FPGA or other circuitry to provide some or all processing functions, such as timing, sampling, and/or analog-to-digital converter functions. Such memory, circuitry, and/or processing hardware may be included in the module itself, or optionally the module may simply contain communications hardware that provides an